

TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT

IDENTIFICATION AND CONTROL OF BIOLOGICAL FOULANTS

Identification No.: RL-MW022

Date: October 2001

Program: Waste Management

OPS Office/Site: Richland Operations Office/Hanford Site

PBS No.: RL-CP02

Waste Stream: 1479 – MLLW GW 100/200 Area (to ETF), 3942 – Evaporator Feed

TSD Title: TBD

Operable Unit (if applicable): N/A.

Waste Management Unit (if applicable): N/A.

Facility: 200 Area Effluent Treatment Facility (ETF)

Priority Rating:

This entry addresses the “Accelerated Cleanup: Paths to Closure (ACPC)” priority:

- ☐ 1. Critical to the success of the ACPC.
- ☐ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high life-cycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays).
- ☒ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

Need Title: Identification and Control of Biological Foulants.

Need/Opportunity Category: *Technology Opportunity* – The Site desires an alternative to the current baseline technology.

Need Description: Waste water resulting from the cleanup of the Hanford Site typically has elevated levels of biological material. These biological foulants have an impact on the operability of the ETF. The identification and control of these biological foulants will significantly improve the ability to treat waste water.

Schedule Requirements:

Earliest Date Required: (10/01/02)

Latest Date Required: (06/30/05)

Must be implemented by June 2005, consistent with the arrival of the Waste Treatment Plant effluent.

Problem Description: Biological foulants interfere with the operation of waste water treatment systems. These foulants need to be identified and controlled.

Potential Life-Cycle Cost Savings of Need (in \$000s) and Cost Savings Explanation: Zero direct cost saving is projected. Reduced downtime results in lower risk in meeting production schedules.

Benefit to the Project Baseline of Filling Need: Reduce process downtime at ETF.

Relevant PBS Milestone: N/A

Functional Performance Requirements: A system to identify when biological foulants are present in a waste water stream and a technology to control the growth of these foulants are needed.

Work Breakdown Structure (WBS) No.:	TIP No.:
------------------------------------------------	-----------------

1.2.3	N/A
-------	-----

Justification For Need:

Technical: Throughput of the ETF has been affected by biological growth in the process systems.

Regulatory: Waste water containing biological foulants must be treated to meet discharge requirements. No other means of treatment exists on the Hanford Site.

Environmental Safety & Health: N/A.

Cultural/Stakeholder Concerns: N/A.

Other: N/A.

Current Baseline Technology: Waste water containing biological foulants have previously been treated in the ETF. Significant down time for equipment cleaning and maintenance was experienced and overall throughput was reduced.

End-User: Waste Management Project.

Contractor Facility/Project Manager: Donald Flyckt, Fluor Hanford, Inc. (FH), (509) 372-3142, Fax (509) 372-2089, Don_L_Flyckt@rl.gov.

Site Technical Point-of-Contact: Dale Black, Fluor Hanford, Inc. (FH), (509) 376-8458, Fax (509) 372-1441, [Dale G Black@rl.gov](mailto:Dale_G_Black@rl.gov); Donald Flyckt, FH, (509) 372-3142, Fax (509) 372-2089, [Don L Flyckt@rl.gov](mailto:Don_L_Flyckt@rl.gov).

DOE End-User/Representative Point-of-Contact: Kevin Leary, DOE-RL, (509) 373-7285, Fax (509) 372-1926, [Kevin D Leary@rl.gov](mailto:Kevin_D_Leary@rl.gov).

Waste volume, m ³	N/A
Waste form	Liquids
Waste stream I.D.	1479, 3942
Contaminants and co-contaminants	Biological foulants
Function of technology	Control biological foulants
Source category	Various waste water sources